

What is claimed is:

1. An apparatus for capturing a plurality of digital color images under

5 controlled lighting conditions, comprising:

(a) a moveable enclosure means which substantially encloses an
environment within which said plurality of digital color images
are captured and which enables the lighting conditions in said
environment to be substantially controlled,

10 (b) a controlled lighting means comprising a plurality of light sources
which can be controlled to produce appropriate lighting
conditions within said moveable enclosure means, and

(c) a digital color image capture means which captures said plurality
of digital color images from within said moveable enclosure
15 means.

2. The apparatus for capturing a plurality of digital color images under
controlled lighting conditions of Claim 1, wherein said digital color
image capture means is selected from the group consisting of digital
cameras, charge-coupled devices, and PC cameras.

20 3. A method of capturing a plurality of digital color images under
controlled lighting conditions, comprising:

(a) substantially enclosing the environment within which said

plurality of digital color images are captured using a moveable enclosure means which substantially encloses said environment, thereby enabling the lighting conditions in said environment to be substantially controlled,

5 (b)providing appropriate lighting conditions within said moveable enclosure means using a controlled lighting means comprising a plurality of light sources which can be controlled to produce said appropriate lighting conditions, and

10 (c) capturing said plurality of digital color images from within said moveable enclosure means using a digital color image capture means.

4. The method of capturing a plurality of digital color images under controlled lighting conditions of Claim 3, wherein said digital color image capture means is selected from the group consisting of digital cameras, charge-coupled devices, and PC cameras.

15 5. An apparatus for capturing a plurality of appropriately colored digital color images, comprising:

(a) a moveable lighting control enclosure means which substantially encloses an environment within which digital color images are captured and which controls the lighting in said environment,

20 (b) a digital color image capture means which captures imperfectly colored digital color images,

(c) a color correction specification means which specifies how the color of said imperfectly colored digital color images should be corrected, and

(d) a color correction means which uses said color correction specification means to correct the color of said imperfectly colored digital color images to produce appropriately colored digital color images.

6. The apparatus for capturing a plurality of appropriately colored digital color images of Claim 5, wherein said digital color image capture means is selected from the group consisting of digital cameras, charge-coupled devices, and PC cameras.

7. The apparatus for capturing a plurality of appropriately colored digital color images of Claim 5, further including a calibration means which calibrates said digital color image capture means and produces said color correction specification means.

8. The apparatus for capturing a plurality of appropriately colored digital color images of Claim 7, wherein said calibration means comprises at least a color palette means comprising a plurality of objects which have a plurality of known colors, and a color correction computation means which computes said color correction specification means from a plurality of imperfectly colored digital color images of said color palette means captured by said digital

color image capture means.

9. A method of capturing a plurality of appropriately colored digital color images, comprising the following steps:

(a) controlling the lighting in the environment within which digital

5 color images are captured using a moveable lighting control enclosure means which substantially encloses an environment within which digital color images are captured and which controls the lighting in said environment,

(b) capturing a plurality of imperfectly colored digital color images

10 using a digital color image capture means, and

(c) correcting the color of said imperfectly colored digital color

images using a color correction means which uses a color correction specification means.

10. The method of capturing a plurality of appropriately colored digital

15 color images of Claim 9 wherein said digital color image capture means is selected from the group consisting of digital cameras, charge-coupled devices, and PC cameras.

11. The method of capturing a plurality of appropriately colored digital

20 color images of Claim 9, further including the step of calibrating said digital color image capture means to produce said color correction specification means before said moveable lighting control enclosure means and said digital color image capture means are delivered to the

end user.

12. The method of capturing a plurality of appropriately colored digital color images of Claim 9, further including the step of calibrating said digital color image capture means produce said color correction specification means whenever a new calibration is desired.

13. The method of capturing a plurality of appropriately colored digital color images of Claim 11, wherein the step of calibrating said digital color image capture means comprises at least the steps of using said digital color image capture means to capture a plurality of imperfectly colored digital color images of a color palette means comprising a plurality of objects which have a plurality of known colors, and of computing a color correction specification means using said imperfectly colored digital color images of said color palette means.

14. The method of capturing a plurality of appropriately colored digital color images of Claim 12, wherein the step of calibrating said digital color image capture means comprises at least the steps of using said digital color image capture means to capture a plurality of imperfectly colored digital color images of a color palette means comprising a plurality of objects which have a plurality of known colors, and of computing a color correction specification means using said imperfectly colored digital color images of said color palette

means.

15. An apparatus for providing a plurality of appropriately colored digital color images of a plurality of objects, comprising:

(a) a moveable lighting control enclosure means which substantially

5 encloses an environment within which digital color images are captured and which controls the lighting in said environment,

(b) a digital color image capture means which captures imperfectly colored digital color images of said objects,

10 (c) a color correction specification means which specifies how the color of said imperfectly colored digital color images should be corrected,

15 (d) a color correction means which uses said color correction specification means to correct the color of said imperfectly colored digital color images to produce appropriately colored digital color images,

(e) an image storage means which stores said appropriately colored digital images, and

(f) an image display means which displays said appropriately colored digital images with substantially the same colors as said objects.

20 16. The apparatus for providing a plurality of appropriately colored digital color images of a plurality of objects of Claim 15, wherein said image storage means is a data server device such as a server

computer, and wherein said image display means is a color-calibrated monitor which may be attached directly to the server computer or to another computer which can obtain data from said data server device.

17. The apparatus for providing a plurality of appropriately colored

5 digital color images of a plurality of objects of Claim 16, wherein said digital color image capture means is selected from the group consisting of digital cameras, charge-coupled devices, and PC cameras.

18. The apparatus for providing a plurality of appropriately colored

10 digital color images of a plurality of objects of Claim 16, further including a calibration means which calibrates said digital color image capture means and produces said color correction specification means.

19. The apparatus for providing a plurality of appropriately colored

15 digital color images of a plurality of objects of Claim 18, wherein said calibration means comprises at least a color palette means comprising a plurality of objects which have a plurality of known colors, and a color correction computation means which computes said color correction specification means from a plurality of digital
20 color images of said color palette means captured by said digital color image capture means.

20. A method for providing a plurality of appropriately colored digital

color images of a plurality of objects, comprising the following steps:

(a) controlling the lighting in the environment within which digital

color images are captured using a moveable lighting control

enclosure means which substantially encloses an environment

within which digital color images are captured and which controls

the lighting in said environment,

(b) capturing a plurality of imperfectly colored digital color images of

said objects using a digital color image capture means,

(c) correcting the color of said imperfectly colored digital color

images to produce appropriately colored digital color images

using a color correction means which uses a color correction

specification means,

(d) storing said appropriately colored digital color images on an

image storage means, and

(e) displaying said appropriately colored digital color images on an

image display means with substantially the same colors as said

objects.

21. The method for providing a plurality of appropriately colored digital

color images of a plurality of objects of Claim 20, wherein said

image storage means is a data server device such as a server

computer, and wherein said image display means is a color-calibrated

monitor which may be attached directly to the server computer or to

another computer which can obtain data from said data server device.

22. The method for providing a plurality of appropriately colored digital color images of a plurality of objects of Claim 21 wherein said digital color image capture means is selected from the group consisting of digital cameras, charge-coupled devices, and PC cameras.

23. The method for providing a plurality of appropriately colored digital color images of a plurality of objects of Claim 21, further including the step of calibrating said digital color image capture means to produce said color correction specification means before said moveable lighting control enclosure means and said digital color image capture means are delivered to the end user.

24. The method for providing a plurality of appropriately colored digital color images of a plurality of objects of Claim 21, further including the step of calibrating said digital color image capture means produce said color correction specification means whenever a new calibration is desired.

25. The method for providing a plurality of appropriately colored digital color images of a plurality of objects of Claim 23, wherein the step of calibrating said digital color image capture means comprises at least the steps of using said digital color image capture means to capture a plurality of imperfectly colored digital color images of a color palette means comprising a plurality of objects which have a plurality of

known colors, and of computing a color correction specification
means using said imperfectly colored digital color images of said
color palette means.

26. The method for providing a plurality of appropriately colored digital
5 color images of a plurality of objects of Claim 24, wherein the step of
calibrating said digital color image capture means comprises at least
the steps of using said digital color image capture means to capture a
plurality of imperfectly colored digital color images of a color palette
means comprising a plurality of objects which have a plurality of
10 known colors, and of computing a color correction specification
means using said imperfectly colored digital color images of said
color palette means.